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Docket No.: 13735 US (C38435/109700 CON)

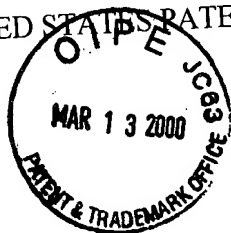
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of :  
Akira ASAKURA, et al.

Serial No.: 09/470,667

Filed: December 22, 1999

For: **NOVEL ALCOHOL/ALDEHYDE  
DEHYDROGENASES**



)  
) Examiner: not yet assigned

) Art Unit: 1633  
)

New York, New York  
March 7, 2000

INFORMATION DISCLOSURE STATEMENT UNDER RULE 1.56

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

Applicants wish to make of record the following documents (Form PTO-1449 is enclosed). Copies of these documents are not being submitted herewith because each was made of record in the Parent Application Serial No. 08/934,506, filed September 19, 1997, to which the present application claims priority under 35 USC §120. 37 CFR §1.98(d).

U.S. PATENT DOCUMENTS

A1	3,234,105
A2	3,912,592
A3	4,960,695
A4	5,437,989
A5	5,352,599
A6	5,541,108

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FOREIGN PATENT DOCUMENTS

B1	JP 51-40154
B2	EP 0 221 707
B3	EP 0 278 447

B4 EP 0 606 621  
 B5 EP 0 366 922  
 B6 EP 0 645 453  
 B7 EP 0 448 969 A2

# OTHER DOCUMENTS

- C1 Zizheng, et al., "Studies on Production of Vitamin C Precursor 2-Keto-L-Gulonic Acid From L-Sorbose by Fermentation," Acta Microbiologica Sinica, 21(2): pp. 185-191 (1981).
- C2 English language abstract of JP 51-40154 (document B1).
- C3 Rudinger, "Characteristics of the amino acids as components of a peptide hormone sequence," In: Peptide Hormones, Ed. J.A. Parsons, University Park Press, Baltimore, MD, pp. 1-7 (1976).
- C4 Ngo, et al., "Computational complexity, protein structure prediction, and the ILevinthal paradox," In: The Protein Folding Problem and Tertiary Structure Prediction, Eds. Merz, et al., Boston, MA, pp. 491-495 (1994).
- C5 Thornton, et al., "Protein Engineering: Editorial Overview," Current Opinion in Biotechnology, 6(4): 367-369 (1995).
- C6 Wallace, "Understanding cytochrome c function: engineering protein structure by semisynthesis," The FASEB Journal, 7: 505-515 (1993).
- C7 Maniatis, et al., Chapter 12: "Vectors that express cloned DNA in *Escherichia coli*," In Molecular Cloning: A Laboratory Manual, Cold Spring Harbor Laboratory Press, pp. 404-433 (1982).
- C8 Matsudira, "Limited N-terminal sequence analysis," Methods in Enzymology, 182: 602-613 (1991).
- C9 Wozney, "Using purified protein to clone its gene," Methods in Enzymology, 182: 738-751 (1991).
- C10 Stoorvoeg, et al., "Characterization of the gene encoding quinoxaloproduct ethanol dehydrogenase of *Comamonas testosteroni*," Eur. J. Biochem., 235: 690-698 (1996).
- C11 "Alcohol dehydrogenase complex structural gene-used in plasmid and enhancing efficiency of acetic acid fermentation for transformed acetic acid bacteria," GENESEQ DATABASE, Accession No. R20192 (1992).
- C12 Tamaki, et al., "Cloning and sequencing of the gene cluster encoding two subunits of membrane-bound alcohol dehydrogenase from *Acetobacter polyoxogenes*," Biochim. Biophys. Acta, 1088: 292-300 (1991).
- C13 Kondo, K. and Horinouchi, S., "Characterization of the Genes Encoding the Three- Component Membrane-Bound Alcohol Dehydrogenase from *Gluconobacter suboxydans* and Their Expression in *Acetobacter pasteurianus*," Applied and Environmental Microbiology, 63(3): 1131-138 (1997).
- C14 Reid, M.F. and Fewson, C., "Molecular Characterization of Microbial Alcohol

Dehydrogenases," Crit. Rev. Microbiol., 20(1): 13-56 (1994).

Applicants request that these documents be considered by the Examiner before issuance of the next action and made of record in this file. The Examiner is also asked to initial and return a copy of the enclosed PTO-1449 form to evidence such consideration.

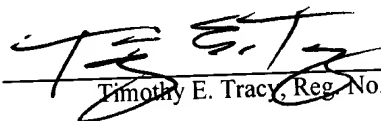
This Information Disclosure Statement is being filed in accordance with the following provisions:

- [x] 37 CFR § 1.97(b)(1) Within three months of the filing date of the national application. No fee is required.

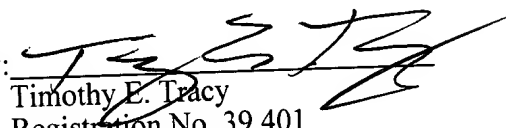
If it is determined that a fee is required as set forth in 37 CFR § 1.17(p) or 1.17(i)(1), or if any additional fees are required, please charge such fee to Deposit Account No. 02-4467. A duplicate copy of this document is enclosed.

Respectfully submitted,

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231, on March 7, 2000.

  
Timothy E. Tracy, Reg. No. 39,401

By:

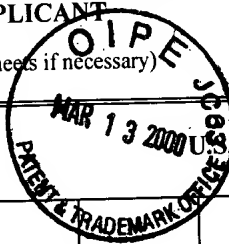
  
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Form PTO-1449  
(Rev. )U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.  
13735 US (38435/109700 CON)SERIAL NO.  
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BY APPLICANT

(Use several sheets if necessary)

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Akira ASAKURA, et al.FILING DATE  
December 22, 1999GROUP ART UNIT  
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## PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	A1	3,234,105	2/1966	Motizuki, et al.			
	A2	3,912,592	10/1975	Makover, et al.			
	A3	4,960,695	10/1990	Hoshino, et al.			
	A4	5,437,989	8/1995	Asakura, et al.			
	A5	5,352,599	10/1994	Fujisawa, et al.			
	A6	5,541,108	10/1975	Fujisawa, et al.			

## FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
	B1	JP 51-40154	11/1976	Japan				
	B2	EP 0 221 707	5/1987	Europe				
	B3	EP 0 278 447	8/1988	Europe				
	B4	EP 0 606 621	7/1994	Europe				
	B5	EP 0 366 922	5/1990	Europe				
	B6	EP 0 645 453	3/1995	Europe				
	B7	EP 0 448 969 A2	10/1991	Europe				

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	C1	Zizheng, et al., "Studies on Production of Vitamin C Precursor 2-Keto-L-Gulonic Acid from L-Sorbose by Fermentation," <u>Acta Microbiologica Sinica</u> , 21(2), 185-191 (1981).
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	C5	Thornton, et al., "Protein Engineering: Editorial Overview," <u>Current Opinion In Biotechnology</u> , 6(4): 367-369 (1995).
	C6	Wallace, "Understanding cytochrome c function: engineering protein structure by semisynthesis," <u>The FASEB Journal</u> , 7: 505-515 (1993).

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Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

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(Rev. )U.S. DEPARTMENT OF COMMERCE  
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## U.S. PATENT DOCUMENTS

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## FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation	
						Yes	No

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

C7	Maniatis, et al., Chapter 12: "Vectors that express cloned DNA in <i>Escherichia coli</i> ," In <u>Molecular Cloning: A Laboratory Manual</u> , Cold Spring Harbour Laboratory Press, pp. 404-433 (1982).
C8	Matsudira, "Limited N-terminal sequence analysis," <u>Methods in Enzymology</u> , Vol. 182, pp. 602-613 (1991).
C9	Wozney, "Using purified protein to clone its gene," <u>Methods in Enzymology</u> , 182: 738-751 (1991).
C10	Stoorvoge, et al., "Characterization of the gene encoding quinoxaemoprotein ethanol dehydrogenase of <i>Comamonas testosteroni</i> ," <u>Eur. J. Biochem.</u> , 235: 690-698 (1996).
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C12	Tamaki, et al., "Cloning and sequencing of the gene cluster encoding two subunits of membrane-bound alcohol dehydrogenase from <i>Acetobacter polyoxogenes</i> ," <u>Biochim. Biophys. Acta</u> , 1088: 292-300 (1991).
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C14	Reid, M.F. and Fewson, C., "Molecular Characterization of Microbial Alcohol Dehydrogenases," <u>Crit. Rev. Microbiol.</u> , 20(1): 13-56 (1994).

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